

What is claimed is:

1. A monitoring system for distributed utilities, the monitoring system comprising:
  - a. a generation device for converting an available resource to a desired utility, the generation device characterized by a plurality of operating parameters;
  - b. an input sensor for measuring input to the generation device;
  - c. an output sensor for measuring consumption of output from the generation device;
  - d. a controller for concatenating measured input and consumption of output on the basis of the input and output sensors.
2. A monitoring system according to claim 1, further comprising at least one sensor for measuring at least one parameter of the said plurality of operating parameters of the generation device.
3. A monitoring system according to claim 1, wherein the at least one sensor is a heat transfer monitor.
4. A monitoring system according to claim 1, wherein the at least one sensor is a flow impedance monitor.
5. A monitoring system according to claim 1, wherein the generation device is a water purifier.
6. A monitoring system according to claim 6, wherein the input sensor is a flowrate monitor.
7. A monitoring system according to claim 6, wherein the output sensor includes a water quality sensor including at least one of a turbidity, conductivity, and temperature sensor.
8. A monitoring system according to claim 7, further comprising a shut off switch that automatically turns off said generation device when said water quality sensor rises above a pre-programmed water quality value.
9. A monitoring system according to claim 7, further comprising an alarm that alerts a user when said water quality value rises above a pre-programmed water quality value.
10. A monitoring system according to claim 7, further comprising a remotely operable shut off switch.

11. A monitoring system according to claim 1, wherein the generation device is an electrical power generator.
12. A monitoring system according to claim 11, wherein the input sensor includes a fuel consumption rate monitor.
- 5 13. A monitoring system according to claim 11, wherein the output sensor includes an electrical usage meter monitor.
14. A monitoring system according to claim 1, further comprising a telemetry module for communicating measured input and output parameters to a remote site.
15. A monitoring system according to claim 14, wherein the telemetry module is a cellular communications system.
- 10 16. A monitoring system according to claim 14, wherein the telemetry module is a wireless system.
17. A monitoring system according to claim 1, further including a remote actuator for varying operating parameters of the generator based on remotely received instructions.
- 15 18. A monitoring system according to claim 1, further including a self-locating device having an output indicative of the location of the monitoring system.
19. A monitoring system according to claim 18, wherein the self-locating device is a global positioning system.
- 20 20. A monitoring system according to claim 18, wherein monitored characteristics of input and output depend upon the location of the monitoring system.
21. A method for assembling a monitoring system comprising:
  - a. providing a generation device;
  - b. coupling an input sensor for measuring input to the generation device;
  - 25 c. coupling an output sensor for measuring consumption of output from the generation device; and
  - d. coupling a controller to the input and output sensor for concatenating measured input and consumption of output on the basis of the input and output sensors.
- 30 22. The method of claim 21, further comprising:
  - a. providing communication between a telemetry module and said controller; and
  - b. providing communication between said telemetry module and a monitoring station.

23. A distributed network of utilities, including at least one of a source of purified water and a source of electrical power, the distributed network comprising:

- a. generators for converting a resource into a useful utility;
- b. input sensors for measuring inputs to respective generators;
- 5 c. output sensor for measuring consumption of output from respective generators;
- d. a telemetry transmitter for transmitting input and output parameters of a specified generator; and
- e. a remote processor for receiving input and output parameters from a
- 10 plurality of utility generators.

24. A method for providing distributed utilities, the method comprising:

- a. providing a generator to a user;
- b. monitoring at least one index of generator usage to supply a utility; and
- c. charging the user on the basis of the index of generator usage.

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